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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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REPLY TO THE ATTENTION OF: (AE-17J)

DEC 17 1997

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

David R. Kozlowski, Associate Director
Office of Safety and Assessment
United States Department of Energy
Ohio Field Office, Fernald Area Office
P.O. Box 538705
Cincinnati, Ohio 45253-8705

Dear Mr. Kozlowski:

Enclosed you will find a copy of the final inspection report on the Fernald Environmental Management Project with respect to compliance with the National Emission Standard for Hazardous Air Pollutants for radionuclides. Also, please note that all of the comments that were made and the responses to comments are included as appendices to the inspection report. Comments were incorporated as appropriate, with all comments having responses made to them.

All of the findings that have been made in this final report need to be formally addressed by either a documented reply as to the status of the finding, or by developing a schedule to meet the compliance issues, within 30 days of receipt of this letter.

If you have any further question or need any clarifications regarding this inspection report and the appendices, please feel free to contact me at (312) 353-6686 or by electronic mail at murphy.michael@epamail.epa.gov.

Sincerely yours,

Michael H. Murphy

Michael H. Murphy, Health Physicist
Air and Radiation Division

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

Inspection Under the National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities 40 CFR 61, Subpart H

I. FACILITY IDENTIFICATION

A. Facility Location

Fernald Environmental Management Project
7400 Willey Road
Fernald, Ohio 45030 (Site Location)

Fernald Environmental Management Project
United States Department of Energy
Fernald Field Office (FN)
Post Office Box 538705, Mail Stop 45
Cincinnati, Ohio 45253-8705 (Mailing Address)

B. Responsible Official

Jack R. Craig, Director
United States Department of Energy
Ohio Field Office, Fernald Area Office

II. DATE OF INSPECTION

July 21 through 25, 1997

III. PARTICIPANTS

A. Facility

Kathleen Nickel, USDOE; Ed Skintik, USDOE; Mark Cherry, FDF; Kevin Tschaen, FDF; Kip Klee, FDF; Phil Spots, FDF; Debbie Reichard, FDF;

Tim Miller, FDF, Sue Olensky, FDF; John Byrne, FDF; Larry Tomzack, FDF; Lewis C. Goidell, FDF

B. USEPA

Michael H. Murphy, Lead Inspector, USEPA; Jeanette Marrero, USEPA; Charles Phillips, SC&A, Contractor for USEPA

C. State of Ohio

James Colelli, ODH/BRP; William Lohner, OEPA/OFFO; Peter Sturdevant, Hamilton County Department of Environmental Services; Dana Thompson, OEPA/CDO

IV. ACRONYMS AND ABBREVIATIONS USED IN THIS REPORT

AMS	Air Monitoring Station
ANSI	American National Standards Institute
APC	Air Pollution Control
BE	Building exhaust
BRP	Bureau of Radiation Protection
C	Celsius
CDO	Central District Office
CERCLA	Comprehensive Environmental Restoration, Compensation, and Liabilities Act
CFR	Code of Federal Regulations
cpm	Counts per minute
DAPC	Dayton Air Pollution Control or Division of Air Pollution Control
DMR	Discharge Monitoring Report
DOE	Department of Energy (United States)

DQO	Data Quality Objective
EDE	Effective Dose Equivalent
EML	Environmental Measurements Laboratory
EMSL-LV	Environmental Monitoring Systems Laboratory at Las Vegas
F	Fahrenheit
FDF	Flour Daniel Fernald
FEMP	Fernald Environmental Management Project
FFA	Federal Facility Agreement
FFCA	Federal Facility Compliance Agreement
FMPC	Feed Materials Production Center
FOV	Finding of Violation
g	Grams
Ge(Li)	Germanium Lithium detection probe
IEMP	Integrated Environmental Management Plan
KeV	Kilo electron volts (1000 electron volts)
μm	Micrometer, Micron (0.000001 meter)
MDL	Minimum detection Limit
N/A	Not Applicable or Not Available
NAREL	National Air and Radiation Environmental Laboratory
NESHAP	National Emission Standard for Hazardous Air Pollutants
NOAA	National Oceanographic and Atmospheric Administration

ODH	Ohio Department of Health
OEPA	Ohio Environmental Protection Agency
OFFO	Office of Federal Facility Oversight
QA	Quality Assurance
QAPjP	Quality Assurance Project Plan
QC	Quality Control
RMP	Radon Measurement Program
SC&A	Sanford Cohen and Associates
SOPs	Standard Operating Procedures
SOW	Scope of Work
U-235	Uranium-235
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency

V. OBJECTIVE/SCOPE OF INSPECTION

The objective of this inspection is to provide a baseline evaluation by the USEPA for compliance with the radionuclide NESHAP, 40 CFR 61, Subpart H. The inspection is intended to ascertain whether the Fernald Environmental Management Project is meeting the requirement of the rule and conditions are as represented in the latest annual report. An evaluation of the current status of the FFA on 40 CFR 61, Subpart Q will also be assessed to verify any changes that may be necessary to better reflect the actual site conditions at this time. The Findings of this Inspection will determine the necessity of issuing Findings of Violations (FOVs) and negotiating a Federal Facility Compliance Agreement (FFCA). This inspection will cover as many areas as possible and in as great a detail and depth as possible in the given time for the baseline inspection.

The scope of the inspection is to 1) perform a walk-through survey to observe all of the locations that are, have been, or are currently suspected of being emission points on site to determine compliance with the monitoring requirements of the regulation, 2) review the proposed sites for an alternate air monitoring program that has been requested for approval, and 3) examine documents on dose modeling and compliance with other record keeping requirements of the rule.

VI. FACILITY DESCRIPTION

The following description is taken from the 1996 National Emissions Standards for Hazardous Air Pollutants, Subpart H Annual Report dated June 24, 1997.

The Fernald Environmental Management Project (FEMP) is located on a 425 hectare (1050 acre) area approximately 27 km (17 miles) northwest of Cincinnati, Ohio. The Production area covers approximately 136 acres (55 hectares) in the center of the FEMP. The facility is sited just north of the small farming community of Fernald, Ohio.

The area immediately surrounding the FEMP is primarily rural in nature, characterized by the predominance of agriculture, with some light industry and private residences. The FEMP is located on a relatively level plain, outside of the 500-year flood plain of the Great Miami River, in an ancestral river valley known as the New Haven Trough.

The climate is characterized as continental, with average temperatures ranging from approximately 29° F (-1.7° C) in January, to 76° F (24.4° C) in July. Average annual precipitation is approximately 40 inches (102 cm) per year. Prevailing wind flow is from the south-southwest.

For 37 years, the former Feed Materials Production Center (Fernald Site) produced uranium metals for the United States Department of Energy (DOE) and its predessors. On July 10, 1989, uranium metals production was suspended. Management responsibilities of the Fernald site were transferred from the Defense Programs organization to DOE's Office of Environmental Restoration and Waste Management.

Currently, most activities at the FEMP are conducted under the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA). These activities include sample analysis, waste characterization, the management, treatment, storage, and disposal of hazardous, mixed,

low-level and solid wastes, and the decontamination and cleanup of radioactively contaminated buildings, equipment, soils, and waters. The site also manages thorium wastes, and K-65 silo waste material which contains radium and produces radon gas.

VII. INSPECTION FINDINGS

The following findings were observed actions, documentations, or lacks of actions and/or documentations during the baseline inspection of the FEMP conducted July 21 through 25, 1997. These observations were provided by USEPA, SC&A, contractor to USEPA, ODH/BRP, and various OEPA offices. Each of these findings needs to be addressed by either comment or action. Some of these items were mentioned during the close out meeting and it was indicated that these issues would be addressed in an expedited time frame. Some of these items are addressed under the Integrated Environmental Management Plan (IEMP), which has been conditionally approved by USEPA and implementation of this agreement is in process.

GENERAL FINDINGS

1) While the real-time data collection from the radon monitors is impressive, efforts should be directed at measuring net radon concentration as low as possible at the FEMP fenceline. This practice is referenced in the FFA on radon emissions from the K-65 silos and the FEMP indicates that radon emissions should be mitigated to 0.015 pCi/L above background at the nearest resident. Although this radon concentration is not measurable with available technology, effects should be directed at measuring concentrations at the FEMP fence line as low as possible.(OFFO)

2) Instrument background should be subtracted from gross counts when measuring radon concentrations, as well as, tracking meteorological data with radon concentrations to indicate when certain sampling locations are being affected from releases from the silos. (OFFO)

3) The routine uranium and thorium analyses for the stack and environmental particulate samples are performed at the FEMP at internally managed laboratories while the quarterly, more extensive analyses, are performed at commercial laboratories under contract to Fluor Daniel. The contract laboratories were selected through a competitive process and perform according to the statement of work (SOW) in their contract.(USEPA)

4) Data and supporting documentation from both the internal and contract laboratories were reviewed. The data review was intended to provide an assessment of the quality and sufficiency of the analysis performed on NESHAPS compliance samples. In addition, since FEMP has requested to use ambient monitoring data in lieu of stack sampling, the ambient monitoring data currently being generated were included. Three criteria were evaluated in the laboratory review: A) Laboratories conforming to written SOPs, procedures, and plans; B) Data independently verifiable (reproduced) from the documents accompanying the data or conveniently and in a comprehensive package; and C) Analytical process in control, as evidenced by the results of quality control samples analyzed concurrently with the samples.(USEPA)

5) The requirements of the SOW associated with the procurement of contract laboratory services is consistent with procurements for DOE programs. If the contract laboratories selected conform to these requirements, the data packages submitted by these laboratories can be used to demonstrate the compliance with the laboratory selection criteria. A review of two comprehensive data packages prepared by one of the contract laboratories indicated that, in general, that laboratory was compliant with the contract requirements relative to the contents of the data packages. However, there was no evidence to indicate that the data packages received by Flour Daniel from the contract laboratory were subjected to a verification process to confirm contract compliance.(USEPA)

6) A review of the training records of the primary analysts for uranium and thorium, indicated that their training and certifications were compliant with the requirements of the Quality Assurance Plan.(USEPA)

7) The laboratory Quality Assurance Plan, which was only cursorily reviewed, lacked the degree of specificity usually found in such documents. For example, the frequency of QC samples is not specified in the Plan.(USEPA)

8) Laboratory instrument calibrations appear to have been performed adequately and timely. Standard preparations are well documented and traceable. (USEPA)

9) A review of the results of the internal QC samples and the external PE (performance evaluation) samples indicates that the laboratory is performing well. (USEPA)

10) After the accumulation of documentation from several sources, It was possible to independently verify some data from the stack sampling analyses. However, some of the requested data could not be produced within the time frame of the audit.(USEPA)

11) Thorium work cards documenting laboratory tracking often had no "sign-off" on data entry or review and one uranium work card had no signed approval.(USEPA)

12) The corrective action file for the laboratory seemed complete and the actions documented. However, the follow-up to situations creating the necessity of a corrective action was lacking. Most corrective actions tried to explain away the necessity of any action as opposed to looking into the reason for a failure. (USEPA)

13) Internal audits of the laboratory were performed and documented.(USEPA)

SPECIFIC FINDINGS

1) While observing a high volume air sample filter change out at AMS#5 the technician did not use gloves to change out the filter nor to replace the filter. While the procedures do not specifically mention donning gloves, it is good sampling protocol to wear gloves to exchange filters. One pair should be worn to remove the soiled filter, and a clean pair should be used to place the new filter. This practice should help prevent cross contamination of filters. These criteria can be found is EPA/600/R-94/038b, April 1994, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, Ambient Air Specific Methods (Interim Edition) Section 2.2.4, Sampling Procedure. "Care must be taken to assure that the clean weighed filters are not damaged or soiled prior to installation in the high-volume sampler." The donning of gloves is a method to prevent the soiling of clean filters.(OFFO)

2) A site of a proposed ambient air monitoring location will require trees and brush to be removed from the proposed site before monitoring begins to meet the siting requirements for the air monitors. (Specifically AMS#22). All siting criteria for ambient air monitors must be followed for acceptable data to be produced. The siting criteria can be found at 40 CFR 58, Appendix E.(OFFO, USEPA)

3) The height of the alpha track-etch cups and continuous radon monitors should be placed in the breathing zone. A good sampling practice would be

to locate all samplers at the same height. This recommended practice can be found in the Radon Measurement Operators Proficiency , Course Manual, Unit 3, Radon Measurement. (OFFO)

4) The calibration stickers for the air flow monitors on the laboratory stack were out of date.(OFFO)

5) Current recordkeeping methods appear to be insufficient to allow independent verification of the analytical process on in house analyses. Flour Daniel Fernald, Environmental Monitoring Project Procedure, Procedure Development and Training, ADM-01, (July 1997) Section 6.2[2]; states "Ensure procedures are reviewed yearly for changes."(OFFO, USEPA)

6) Records should be available, *on-site*, as required under 40 CFR 61.95. Flour Daniel Fernald, Environmental Monitoring Project Procedure, Procedure Development and Training, ADM-01, (July 1997) Section 6.2[2]; states "Ensure procedures are reviewed yearly for changes."(OFFO, USEPA)

7) The High Volume Air Monitoring Procedure (PROC. NO. SRS-REM-001) appears to be out of date. The documentation employed by the field sampling technician did not match the documentation requirements listed in this procedure.(OFFO)

8) The Real-Time Environmental Monitoring Procedure EM-RM-014 is out of date. This procedure is dated 6/16/92. FEMP procedures are required to be reviewed every two years. (If this procedure has been reviewed, there was no documentation provided to indicate a review date.) (OFFO)

9) There is little documentation provided with the alpha track-etch radon monitors to indicate data manipulation from vendor to concentrations reported in the ASER. This may impact the data validity. The QA/QC for all data manipulation needs to be provided in a verifiable and documented form or a regular basis. This requirement can be found in 40 CFR 61, Appendix B, Method 114.(OFFO, USEPA)

10) The Environmental Radon Monitoring procedure (PROC NO: EP-REM-011) is not consistent with actual field sampling practices. The procedure indicates the use of type "L" and type "M" cups while "radon only" cups are being used. Also, blind blank (unexposed) cups should be sent to the vendor as a QC on the measuring laboratory. This procedure, to incorporate QA/QC cross-checks, may be found in the *Radon Measurement Operators Proficiency , Course Manual, Unit 3, Radon Measurement.* (OFFO)

11) The RMP listing for the radon vendor appeared to be out-of-date.(OFFO)

12) The desiccant tower and filter of the silos continuous radon monitoring system need to be changed with an appropriate frequency and documented in a procedure. (As observed, the desiccant tower required changing.) (OFFO, USEPA)

13) The USEPA Region 5 radiation program, requires a 95 percent recovery rate for all data used for compliance under the radionuclide NESHAPs, including meteorological data. The meteorological tower equipment needs to be in sufficient replicate to assure that this is met. Typically three separate sets of equipment for each of the sampling points on the tower is considered adequate. One set currently installed, one set that may be out for calibrations, and a third set as an emergency backup for unforseen circumstances that can readily occur during the time of thunderstorms or other adverse weather conditions.(USEPA)

14) The Advanced Waste Water Treatment (AWWT) facility has been identified as a source of radionuclide emissions. However, no mention of the AWWT is made in the annual report for 1996. The status of the AWWT, therefore, remains unclear.(Hamilton Co.)

15) An application for the renewal of the State Permit to Operate (PTO) has been submitted to this Department for the Laundry Facilities located in Building 11. This application contains a request that the requirement for monitoring of the stack be deleted. Although the calculated Potential to Emit (PTE) does not require monitoring of this source under 40 CFR 61.93, the stack monitoring requirements of the PTO remain in effect until a determination to the contrary is made.(Hamilton Co.)

16) There is a lack of comprehensive documentation upon which to independently verify the analytical data produced by the internal laboratory for stack analyses. No data package, as such, exists which documents the analytical analysis process and the QC samples appropriate to it. While the data seem to be available in several different locations it is never assembled into a single package. Thus, much effort it required for an auditor to evaluate the analytical results. Outlined below is an example of a <u>minimum</u> data package that should be produced. (USEPA)

<u>Sample Cross Reference</u>:

It was difficult to track samples due to various numbers assigned. A table providing this at the beginning would help.

Case Narrative:

No case narrative is currently developed to cover both the uranium and thorium analyses. So it is not possible to determine if problems were encountered during the analyses.

Sample Data Report:

The results of all analysis for a single sample should be on one sheet.

QC Summary:

The results of all QC samples processed should be summarized.

Standards and Calibration:

Standards and tracers should be identified along with the documentation of dilutions and copies of certificates. Instrumentation calibrations should be documented.

Sample Preparation Summary:

Sample preparation logs; including weights, dilutions, and sample analysis fractions; should be presented.

Raw Data:

Enough raw analysis data should be included to verify the results

17) It does not appear that the analytical data documentation developed for NESHAPS compliance samples currently meets the record keeping requirements of the rule.

VIII. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are made based upon the review of the documentation and the actual viewing of procedures during the July 21 through 25, 1997, inspection of this facility, the information previously submitted in the annual report required under 40 CFR 61, Subpart H, and the submitted Application for and Alternate Methodology for Compliance Demonstration.

1. The FEMP Laboratory should develop a data package along the lines outlined in Specific Comment number 17, above for the data produced in determining compliance with the NESHAPS rule. Otherwise all of the data produced by the on-site evaluators is suspect, as the QA requirements found in 40 CFR 61, Appendix B, Method 114 are not met.

2. The Quality Assurance Plan for the internal laboratories should be reviewed and written with more specificity relative to the work performed in the laboratory.

3. The Alternate Methodology was approved as submitted on August 11, 1997, and will be reviewed as necessary to assure the facility is appropriately demonstrating compliance with 40 CFR 61, Subpart H.

4. Regarding the meteorological tower, it is strongly recommended that three sets of instruments for each sampling height be available. As provided in the report above, one set installed, one set as a backup, and the third set being calibrated for use. Regardless of the perceived needs or lack of needs of the facility, this type of data is required for a variety of compliance issues and needs to be addressed in a timely manner.

5. All SOP's or alternate procedures need to be adequately documented and updated. A procedure for regular review of these procedures needs to be developed to assure that this is completed in a timely manner on a regular basis, or in the case of changes necessary in the interim, notations need to be made indicating that a procedure change has been requested and is in the process of review or change as specified under an appropriate QA/QC procedure.

6. All changes in documentation need to be signed and/or initialed as appropriate, and dated. If interim approval has been given to change a procedure, this should be clearly noted and be included with the current procedure until such time as the new procedure can be fully reviewed and approved.

Appendix 1
USDOE Comments

Department of Energy
Ohio Field Office
Fernald Area Office
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155

OCT 02 1997

DOE-0005-98

Mr. Michael Murphy
U.S. EPA, Region V
Air and Radiation Division
77 W. Jackson Blvd.
AE-17J
Chicago, Illinois 60604-3590

Dear Mr. Murphy:

COMMENTS ON THE U.S. ENVIRONMENTAL PROTECTION AGENCY DRAFT NATIONAL EMISSION STANDARDS HAZARDOUS AIR POLLUTANTS INSPECTION REPORT

Enclosed are the Department of Energy, Fernald Environmental Management Project's (DOE-FEMP) comments on the draft report concerning the July 21 through July 25, 1997, inspection of the FEMP's National Emission Standards for Hazardous Air Pollutants (NESHAP) monitoring program.

If you have questions regarding these comments please contact Ed Skintik at (513) 648-3151 or Kathi Nickel at (513) 648-3166.

Sincerely,

David R. Kozlowski
Associate Director,
Office of Safety and Assessment

Enclosures: As Stated

cc w/o enc:

K. Nickel, DOE-FEMP
J. Byrne, FDF, MS 90
M. Cherry, FDF, MS 90
L. Goidell, FDF, MS 65-2
K. Klee, FDF, MS 65-2
P. Spotts, FDF, MS 65-2

NESHAP INSPECTION REPORT COMMENTS

General Comments:

- Section VII states "The following findings were observed actions, documentations, or lacks of actions and/or documentations during the baseline inspection of the FEMP...". It then states that all findings must be addressed. By combining findings with observations it becomes difficult to identify corrective actions; for example, General Findings 2,3,5,7,8,12 and Specific Finding 14 are statements requiring no action. It is recommended that Section VII be divided into two sections: observations requiring no actions, and findings for those requiring actions.

- To ensure an acceptable response to each finding, it would be helpful if a regulatory requirement be referenced along with the finding. In some cases, determining whether the finding is a recommendation or is citing a nonconformance with a regulatory requirement is difficult. Examples include General Comments 1, 6,11 and Specific Findings 3, 9,12 & 15.

Specific Comments:

Item No.

1) Suggest this be broken down into three independent findings: 1) The FEMP is not making adequate effort to measure the impact to the public ... ; 2) instrument background should be subtracted when measuring radon concentrations: and 3) efforts should be made to measure radon concentrations at the lowest level possible.

In addition, as stated in our general comment 2, it would be helpful if regulatory citations be provided to help define "adequate effort" with respect to measuring the impacts of silo headspace radon concentrations.

11) The FEMP has several action tracking systems to ensure corrective actions are carried out. Please clarify whether this finding is referring to corrective action tracking in the Laboratory.

Specific Findings:

Item No.

2) Based upon a telephone conversation, we understand there to be only one location that requires tree and brush removal. Please clarify that tree and brush removal is a concern only at the location of AMS 22.

3) Please provide a reference for the recommended height of 1.7 to 2 meters for alpha track-etch cups. We are familiar with this height recommendations for particulate monitors, but are unaware of similar recommendations concerning radon cups.

8) Suggest the possibility of combining this finding with Specific comments 15 and 16. The first part of this finding is similar to Specific Comment 15, therefore, we recommend combining them into a single comment. The second part of this finding appears to relate to Specific Comment 16 and General Comment 9. Please consider combining these issues into a single specific finding that we can address with a single response.

9) The FEMP radon procedure refers to Type "F" and Type "M" cups not type "L" as stated in the finding.

10) This finding states that our radon vendor's RPM listing appears to be out of date. During our September 24, 1997, conference call we stated that it was our understanding that once a vendor was approved and listed with the National Radon Proficiency Program (RPP) their standing remained unless the vendor failed to pass a device performance test. U.S. Environmental Protection Agency (USEPA) disagreed with this statement, so we again contacted our radon vendor who forwarded the enclosed update on the USEPA's National Radon Proficiency Program, which was written by Philip Jalpert of the USEPA. According to the update, biannual retesting of devices used in providing analytical services is no longer required. A device performance test is required only when the vendor applies to the program; however, the USEPA reserves the right to conduct blind tests anytime after receipt of an application.

Based on this information we assume our radon vendor is in good standing. If there is still disagreement, we will need to further discuss this issue.

12) Under the alternate monitoring program the meteorological data will no longer be needed to demonstrate compliance, therefore a 95 percent recovery rate for mythological data will not be a NESHAP compliance issue.

14) This finding is questioning the location of air monitoring stations under the alternate monitoring system. These locations have already been approved by the USEPA as documented in a letter from Jack Barnett (USEPA) to Johnny Reising (DOE-FEMP) dated August 11, 1997. It is our understanding that as a result of the September 24 conference call between the DOE, Fluor Daniel Fernald, Inc. (FDF) and USEPA this finding will be eliminated from the final report.

Update on the U.S. EPA's National Radon Proficiency Program

by
Philip P. Jalbert
("jalbert.philip@epamail.epa.gov")

In October 1995, the U.S. EPA completed a months long effort to further consolidate the *National Radon Proficiency Program* (RPP) for radon measurement and mitigation proficiency. The biggest changes resulting from them the consolidation affected program administration, contractor support for the program, the proficiency classifications and requirements, user fees, communications with the program, and access to the proficiency listings. Since October, other program improvements have been progressing, most notably, the effort to develop a continuing education program within the individual proficiency component.

Responsibility for day-to-day administration and operation of the program was consolidated under Mr. Sam Poppell as the overall RPP program manager. Mr. Poppell is with EPA's *National Air and Radiation Environmental Laboratory* (NAREL) in Montgomery, Alabama; his e-mail address is "poppell.sam@epamail.epa.gov". NAREL is a unit of the Agency's *Office of Radiation and Indoor Air* (ORIA). Other ORIA staff members support Mr. Poppell by administering specific program components. For example, Mr. James Long ("long.james@epamail.epa.gov") is responsible for the user fee component, and Mr. Eugene Fisher (fisher.eugene@epamail.epa.gov") is responsible for the individual mitigation proficiency component. At ORIA's Las Vegas laboratory, Mr. Emilio Braganza ("braganza.emilio@epamail.epa.gov") is responsible for measurement device evaluations.

The number of contractors involved in supporting the RPP has been reduced. Sanford Cohen & Associates, Inc. (SC&A) is now the prime contractor providing the RPP with logistical support. SC&A offices in McLean, Virginia and in Montgomery, Alabama provide the bulk of this support. Also, SC&A subcontracts with the Professional Examination Service (PES) for support in developing, maintaining and scoring EPA's measurement and mitigation examinations for individuals. In turn, PES subcontracts with Drake Prometric to make EPA's examinations available more than 135 locations offering computer based testing services nation-wide.

The *Radon Proficiency Program Information Service* (RIS) can now be reached by calling toll-free 1-800-962-4684. The RIS is operated by SC&A staff located in the Montgomery, Alabama office. Also, an e-mail box for the RIS has been established at "mail10554@pop.net", where e-mail is forwarded to the appropriate EPA staff person for action or is handled by SC&A's RIS staff. Furthermore, the older toll numbers for telephone (334-272-2797) and facsimile (334-260-9051) continue to be available to applicants, participants, and state and federal government, and other users.

Prior to the consolidation, an applicant could apply for a proficiency listing as an organization offering either primary (with analysis) or secondary (without analysis) radon measurement services, as an individual offering measurement services, or as an individual offering mitigation services. The consolidation simplified this by having just three options: analytical services, residential services, and mitigation services. The latter two, residential and mitigation proficiency, are available only to

individuals. This change simplified the application and approval process, the user fee schedule and invoicing procedure, and shortened the elapsed time between EPA receiving an application and issuing a proficiency listing or photo-ID card. The three earlier *Handbooks* (RMP organizations, RMP Individual, RCP) were combined into a single *Handbook* (RPP) with a shorter single set of application forms. Also, applicants must now include all the required documentation with their application, shortening the processing time needed. For example, the required mitigation hands-on training certificate must accompany the application. Applicants also benefit in another way, having the flexibility to assemble a complete application without the worry about deadlines. Furthermore, the earlier requirement for a biennial retest of devices used in providing analytical services was eliminated. Analytical services providers now need only pass a device performance test when they apply to the program. * 1

The user fee schedule and invoicing procedure was made simpler as a result of these and other more minor changes. The timing of an invoice and the elimination of individual organization fees for those who had been required to have dual listings, were perhaps the two most important changes. The new timing means that annual invoices will now be keyed to the participant's listing anniversary date. This change has several added benefits, including the elimination need for of pro-rated fees and the smoothing of the user fee workload over the entire year, rather than all at one time.

Access to the most important RPP product, proficiency listings, has also improved. Due to their high cost, printed paper copies of the proficiency listings were eliminated, with the January 1995 edition being the last printed. Instead of paper, EPA instituted a policy of "paper less" proficiency listings, i.e., by issuing floppy disk editions and creation of an RPP Home Page on the Internet. Currently, the RIS is making floppy disk copies available to state radon programs, EPA's regional offices and EPA cooperative partners. The floppy disk edition contains a browser that allows easy navigation and searches. The RPP Home Page ("http://www.epa.gov/oar/radonpro.html") gives the user the option of looking up the state radon program offices or downloading the listings. The download option includes a utility that automatically unzips the compressed file after arriving on the user's hard drive. As this article goes to print, a new Home Page is being put up that will give users the option of viewing the listings on screen or downloading them in one of five formats (dBASE, ASCII Text, Rich Text Files (RTF), WP5.1, MSWord 2.0).

D:RCOM(RPPART-1.COM)/P.Jalbert/9Feb96/DRAFT.

- Timeliness: Participants must return radon measurement results to the consumer within 30 calendar days after completion of the measurement exposure or after receiving an exposed detector that has been delivered to the participant for analysis. This requirement applies to both analytical and residential measurement service providers, regardless of whether the participant reports the results directly to the consumer.

- Minimum 48 Hour Measurement: Participants that offer analytical measurement services with devices designated as grab methods must provide consumers with written notification that grab sample results should not be used as the sole basis for deciding to mitigate. The results of grab sampling measurements and those of less than 48 hours are not appropriate for mitigation decision making.

- Consumer Measurement Result Disclaimer: If an analytical measurement service provider is delisted for a measurement device, that participant must notify all of its residential measurement clients that report results to the consumers of its delisting. The test reports must have the following disclaimer:

> "This radon measurement result was analyzed by an organization that does not currently meet the requirements of the U.S. EPA Radon Proficiency Program."

Likewise, if a residential measurement provider loses his or her listing, a similar caveat must be added to any reports provided by the individual to their clients.

In cooperation with the Consumer Federation of America (CFA), EPA has drafted a user-friendly test results letter for consumers that participants are encouraged to use; see Appendix D.

4.2.6 Record Keeping

Listed analytical service providers must maintain a record of all residential measurement service providers that use their analytical services. Also, residential measurement service providers must keep records of all analytical measurement services used for analysis and residential test reports. These lists may be reviewed and compared by EPA as needed. This is a continuing requirement of the Program.

4.3 PROGRAM REQUIREMENTS SPECIFIC TO ANALYTICAL MEASUREMENT SERVICES

In addition to the requirements described above, analytical measurement service providers must also adhere to the following Program specifications.

4.3.1 Analytical Measurement Service Providers Must Pass a Device Performance Test

All participants providing analytical measurement services must pass a device performance test to obtain a listing for a specific device. This applies to all devices for which a participant wishes to obtain a Proficiency Listing. The test will be scheduled for the next test window after the device application is accepted and user fees for that device are received. Test windows are conducted regularly throughout the year. The device performance test is designed to assess the participant's ability to produce accurate results.

Analytical service providers are expected to provide measurement results that are within ±25% of EPA's target value. They are also required to submit results to EPA in a manner consistent with requirements outlined in Section 7, which discusses procedures for the test.

Device performance tests within the Program are either announced or blind. Announced tests are scheduled with the knowledge of the applicant. Applicants submit their measurement devices, which are exposed to known radon concentrations in EPA laboratories. After exposure, the devices are returned for analyses. Blind tests are conducted without the applicant's/participant's knowledge. During blind testing, EPA acquires the device for exposure to a known concentration of radon, typically in an EPA radon chamber. The participant must then report the measured value, which is compared to the target value. In both announced and blind types of testing, analytical service providers are required to return accurate measurement results in accordance with all Program requirements. Participants who fail to do so are subject to delisting and applicants who fail will not obtain their listing.

For RPP purposes, devices are designated as either "mail-in" or "walk-in." Mail-in devices are shipped to EPA for radon measurement test exposure. For walk-in devices, an applicant or participant must send an operator and a device from its inventory to one of EPA's laboratories. For some devices, a participant will be given a choice between walk-in and mail-in procedures. The Agency reserves the right to ask for specific operators and equipment that are used to provide measurements to consumers. Applicants and participants using portable or self-contained measurement devices must provide information about their inventory and measurement technicians to EPA upon request.

In announced tests, applicants must conduct all exposures and analyses in the same way that they are done for consumers. For example, device analyses must be done by the participating organization using equipment used in analyzing consumer measurements. Applicants must pass a test for each specific brand/model/type of radon measurement device for which they have applied. Most initial performance tests are announced, and are conducted with the knowledge of the applicant. However, the Agency reserves the right to conduct blind tests at any time after receipt of a correct and complete *Application*. Blind test results may be used to determine whether an applicant receives initial listing or a participant should be delisted. For information on testing procedures, see Section 7 of this *Handbook*.]*2

4.3.2 Annual Calibration Requirement

Regular calibration of devices is an important factor in providing accurate radon measurements to consumers. Therefore, analytical measurement service providers are required to calibrate all devices annually or more frequently if the device manufacturer recommends that you do so. The analytical measurement service must display calibration stickers on CR and CW monitors that at a minimum shows the calibration facility, the calibration date, and the calibration expiration. Also, the analysis service must keep records and certificates for all devices corresponding to Program listings. The Agency reserves the right to audit this information as necessary. Failure to maintain this information will result in delisting. All costs associated with fulfilling this requirement are the responsibility of the participant.

Appendix 2
Comments and Response to Comments

Comments and Responses to Comments
40 CFR 61, Subpart H Inspection Report

Comment:

Section VII states "The following findings were observed actions, documentations, or lacks of actions and/or documentations during the baseline inspection of the FEMP.. ". It then states that all findings must be addressed. By combining findings with observations it becomes difficult to identify corrective actions: for example, General Findings 2, 3, 5, 7, 8, 12, and Specific Finding 14 are statements requiring no action. It is recommended that Section VII be divided into two sections: observations requiring no actions, and findings for those requiring actions.

Response to Comment:

The USEPA appreciates your views, however, this procedure has been used for several years at other USDOE facilities in Region 5 with no difficulties. The difficulty may be in the interpretation of the observationsby either FDF or DOE, or the lack of familiarity with the requirements under the regulation. In either case the USEPA is willing to assist FEMP to determine the necessary actions to meet the requirements, as is generally the case in enforcement actions. All observations or findings must be addressed. This does not mean that a specific corrective action nedds to be specifically initiated, and may just require a statement noting the concern and agreeing to keep it under consideration in the future.

Comment:

To ensure an acceptable response to each finding, it would be helpful if a regulatory requirement be referenced along with the finding. In some cases, determining whether the finding is a recommendation or is citing a nonconformance with a regulatory requirement is difficult. Examples include General Comments 1, 6, 11 and Specific Findings 3, 9, 12, and 15.

Response to Comment:

The USEPA appreciates this comment and will make an effort to assure that this procedure will be used to assist in prioritizing issues to be addressed in the inspection report.

Comment:

1) Suggest this be broken down into three independent findings: 1) The FEMP is not making adequate effort to measure the impact to the public...; 2) instrument background should be subtracted when measuring radon concentrations; and 3) effeorts should be made to measure radon concentration at the lowest level possible.

   In addition, as stated in our general comment 2, it would be helpful if regulatory citations be provided to help define "adequate effort" with respect to measuring the impacts of silo headspace radon concentrations.

Response to Comment:

This comment has been divided into separate comments. The FFA on radon emissions from the K-65 silos and the FEMP indicates that radon emissions should be mitigated to 0.015 pCi/L above background at the nearest resident. Although this radon concentration is not measurable with the available technology, efforts should be directed at measuring concentrations at the FEMP fence line as low as possible.

Comment:

11) The FEMP has several action tracking systems to ensure corrective actions are carried out. Please clarify whether this finding is referring to corrective action tracking in the Laboratory.

Response to Comment:

This comment refers to the Laboratory.

Comment:

2) Based upon a telephone conversation, we understand there to be only one location that requires tree and brush removal. Please clarify that tree and brush removal is a concern only at the location of AMS22.

Response to Comment:

From a visual review it appeared that there was only one location where tree and brush removal was required, specifically AMS22. However, any other location that may not meet the siting requirements for particulate monitors will need to conform to the requirements of both the siting of monitors and collection of the particulate samples.

Comment:

3) Please provide a reference for the recommented height of 1.7 to 2 meters for alpha track-etch cups. We are familiar with this height recommendations for particulate monitors, but are unaware of similar recommendations concerning radon cups.

Response to Comment:

The height of the alpha track-etch cups and continuous radon monitors should be placed in the breathing zone. A good sampling practice would be to locate all samplers at the same height. *Radon Measurement Operators Proficiency, Course Manual, Unit 3 Radon Measurement.*

Comment:

8) Suggest the possibility of combining this finding with Specific comments 15 and 16. The first part of this finding is similar to Specific Comment 15, therefore, we recommend combining thaem into a single comment. The second part of this finding appears to relate to Specific Comment 16 and General Comment 9. Please

consider combining these issues into a single specific finding that we can address with a single response.

Response to Comment:

USEPA appreciates your comment, however, the issues raised in these comments refer to two different locations and are not specifically related. Please note that these is some rearrangement of the report due to comments made, andthe referenced comments may not specifically match the current numbering scheme for the findings.

Comment:

9) The FEMP radon procedures refers to Type "F" and Type "M" cups not Type "L" as stated in the finding.

Response to Comment:

Type "M" cups..blind blank cups. *Radon Measurement Operators Proficiency, Course Manual, Unit 3 Radon Measurement.*

Comment:

10) This finding states that our radon vendor's RPM listing appears to be out of date. During our September 24, 1997 conference call we stated that it was our understanding that once a vendor was approved and listed with the National Radon Proficiency Program (RPP) their standing remained unless the vendor failed to pass a device performance test. U.S. Environmental Protection Agency (USEPA) disagreed with this statement, so we again contacted our radon vendor who forwarded the enclosed update on the USEPA's National Radon Proficiency Program, which was written by Phillip Jalpert of the USEPA. According to the update, biannual retesting of devices used in providing analytical services is no longer required. A device performance test is required only when the vendor applies to the program; however, the USEPA reserves the right to conduct blind tests anytime after receipt of an application.

Based on this information we assume our radon vendor is in good standing. If there is still disagreement, we will need to further discuss this issue.

Response to Comment:

While the vendor may be in good standing within the RPP, they are to be able to provide their annual calibration data to demonstrate their adherence with QA requirements of the program. These data should be provided on an annual basis to fulfill this QA demonstration for this facility. If the vendor cannot provide this information, then the vendor as well as the facility may be considered to be out of good standing or out of compliance with the QA requirements found in the rule.

Comment:

12) Under the alternate monitoring program the meteorological data will no longer be needed to demonstrate compliance, therefore a 95 percent recovery rate for meteorological data will not be a NESHAP compliance issue.

Response to Comment:

The requirement was not met for this inspection period. The approval had not been issued at the time of the inspection, so this comment is not appropriate.

Comment:

14) This Finding is questioning the location of air monitoring stations under the alternate monitoring system. These locations have already been approved by the USEPA as documented in a letter from Jack Barnette (USEPA) to Johny Reising (DOE-FEMP) dated August 11, 1997. It is our understanding that as a result of the September 24 conference call between the DOE, Flour Daniel Fernald, Inc. (FDF) and USEPA this finding will be eliminated from the final report.

Response to Comment:

This comment was made prior to approval of this alternate methodology. The County's concern to assure conservatism in the evaluation of a potential health threat is expected and the subsequent approval of this alternate methodology assure the maximum in conservatism with respect to the rule.

Appendix 3
OEPA/OFFO
Citations for
Findings

CITATIONS FOR OEPA/OFFO FINDINGS DURING DOE-FEMP NESHAPS INSPECTION-1997

VII. INSPECTION FINDINGS

GENERAL FINDINGS

1) While the real-time.....Efforts should be directed at measuring net radon concentrations as low as possible at the FEMP fence line.

CITATION: The FFA on radon emissions from the K-65 silos and the FEMP indicates that radon emissions should be mitigated to 0.015 pCi/L above background at the nearest resident. Although this radon concentration is not measurable with available technology, efforts should be directed at measuring concentrations at the FEMP fence line as low as possible.

SPECIFIC FINDINGS

1) ....wear gloves when exchanging filters.

CITATION: EPA/600/R-94/038b, April 1994, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, Ambient Air Specific Methods (Interim Edition) Section 2.2.4 Sampling Procedure. *Care must be taken to assure that the clean weighed filters are not damaged or soiled prior to installation int the high-volume sampler.* The donning of gloves is a method to prevent the soiling of clean filters.

3) The height of the alpha track-etch cups should be consistent.....

Comment: Reword this finding to read as follows- *The height of the alpha track-etch cups and continuous radon monitors should be placed in the breathing zone. A good sampling practice would be to locate all samplers at the same height.*

CITATION: Radon Measurement Operators Proficiency, Course Manual, Unit 3 Radon Measurement.

5 & 6) ....procedures out of date.

CITATION: Flour Daniel Fernald, Environmental Monitoring Project Procedure, Procedure Development and Training, ADM-01, (July 1997) Section 6.2[2]; states - *Ensure procedures are reviewed yearly for changes.*

9) ...Type "M" cups...blind blank cups.

CITATION: Radon Measurement Operators Proficiency, Course Manual, Unit 3 Radon Measurement.